Improving Access to Hearing Health Care

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The official link for this solicitation is: http://grants.nih.gov/grants/guide/rfa-files/RFA-DC-12-002.html

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Description:

The purpose of this funding opportunity (FOA) is to improve hearing health care outcomes and reduce health disparities through the development and commercialization of improved devices for hearing health care (HHC). For the purposes of this FOA, “hearing health care” is defined as assessment and access to hearing aids and nonmedical treatment, including hearing screening and hearing assessment as well as acquiring an appropriate device and services for the individual’s hearing loss and communication needs. Appropriate technologies must have the following basic characteristics: easily affordable, effective, culturally acceptable, and accessible to those who need them.

This announcement calls for applications to develop devices and other technologies that address the HHC needs of the nation, including health disparity populations. Generally, health disparity populations include racial and ethnic minorities, the rural and urban poor, and other medically underserved populations.

Background

Medical and scientific advances have introduced new opportunities for the continued improvement of health for all Americans. However, in spite of notable technological advancement, there continues to be an underutilization of HHC and a disproportionate burden of illness among minority and other health disparity populations.

Hearing loss (HL) is among the leading public health concerns. Approximately 17% of American adults, or 36 million people, report some degree of HL. It is the third most prevalent chronic health condition facing seniors. Yet, fewer than 20% of those who require intervention and treatment seek help for their condition. Most hearing aid users have lived with HL for over 10 years and their impairments have progressed to moderate-to-severe levels before seeking a hearing aid. For many reasons, the current HHC needs of the vast majority of adults with HL are not being met. In addition, overcoming persistent disparities in healthcare access and health outcomes remains a foremost challenge. To meet this challenge, the NIH is committed to supporting a wide range of research, aimed at the development of innovative diagnostics, treatments, and preventative strategies to reduce, and eventually eliminate, health disparities.

NIDCD sponsored a research working group on Accessible and Affordable Hearing Health Care for Adults with Mild to Moderate Hearing Loss on August 25 -27, 2009. The purpose of the working group was to develop a research agenda to increase accessibility and affordability of HHC for adults with mild to moderate HL, including accessible and low cost hearing aids. Small businesses are well suited to address many of the articulated research needs, and the SBIR (R43/R44) and STTR (R41/R42) grant programs represent a unique opportunity to provide assistance to these groups. This FOA is one of several NIDCD research initiatives created in response to the working group recommendations. A summary of the working group report with the accompanying recommendations can be found at: http://www.nidcd.nih.gov/funding/programs/09HHC/summary.htm

Research Objectives and Scope

The primary objective of this funding opportunity is to support the translation of technologies, new or existing, that can have a significant impact on healthcare access and health outcomes for individuals with hearing loss, including health disparity populations. A requisite component of the research plan is a description of the healthcare requirements and needs of the population and the existing barriers to adequate healthcare delivery. Several of these barriers have been identified and are described below. Applications submitted to this funding opportunity must have potential to improve HHC by developing and translating technologies that address one or more of these existing barriers.

- Physical Barriers—factors such as proximity to healthcare facilities and transportation may limit access to healthcare.
- Infrastructure Barriers—rural hospitals and community health centers may not have the same resources and expertise of large hospitals, and may not be able to afford advanced but costly medical technologies.
- Economic Barriers—lack of insurance coverage or financial resources may contribute to disparities in healthcare access and outcomes.
- Knowledge Barriers—health literacy and language barriers can inhibit healthcare delivery, including the patient's knowledge of their healthcare needs.
- Cultural Barriers—religious beliefs and social customs often deter certain populations from seeking healthcare.
- User Barriers—manual dexterity, cognitive capacity.

Appropriate technologies must be effective, affordable, culturally acceptable, and deliverable in ways that are likely to provide significant gains in access for a specific health disparity population. It must provide an improvement over the current quality of care and overcome one or more of the barriers listed above. The technology must also be low-cost, so as to be affordable to the local hospital, community health center, primary care physician, or individual patient in need. For a medical technology to be accepted and adopted, the technology development must be amenable to the population's social customs and cultural beliefs. To be physically deliverable to those in need, a technology must be developed within the specifications of the operating environment of the end-user. An overarching list of the types of technology that might achieve the objectives of this initiative includes, but is not limited to:

- Telehealth technologies for remote evaluation and monitoring.

- Devices or sensors for point-of-care assessment or treatment.
- Devices for in-home monitoring.
- Mobile, portable assessment and therapeutic systems.
- Devices which integrate assessment, diagnosis and treatment.
- Devices that do not require special training.
- Devices that can operate in low-resource environments.
- Non-invasive technologies for assessment, diagnosis and treatment.
- Integrated, automated systems to assess or monitor a specific condition.

Some specific examples include:

- Development of a HHC kiosk, allowing low cost hearing testing and hearing aid fitting, for underserved patients or in underserved geographic areas. Services might include hearing testing and/or hearing aid fitting, adjustment, user training, and diagnostic services.
- Use of the internet for hearing testing, hearing aid fitting and adjustment, patient education and followup.
- The development of calibration systems for automatic audiometer.
- Telephone and internet screening systems.
- Use of currently available basic technology (e.g. phone lines, internet, universal remote controls, home audiovisual equipment, smart phones) to promote patient education, surveillance of hearing loss, hearing aid maintenance, and patient-clinician communication.
- Technologies minimizing the need for multiple patient visits to a practitioner’s office.
- Development of automated eudiometry with potential for implementation beyond the traditional clinical or research environment.
- Development of low cost self-fitting hearing aids that improve accessibility though appropriate use of new or existing technology, after special consideration of patient needs for limited dexterity, cosmesis, selection, fitting, and aftercare.

Applications may seek to increase access to HHC by using existing instrumentation, if the proposed intervention will be provided in a format likely to be significantly more affordable, culturally acceptable, or readily used by patients. Since the core challenge of this FOA is delivery of HHC to users that have not accessed this service in the past, atypical and/or novel strategies for commercialization are encouraged